slag has gone down below 10 per cent., so also these amounts of oxygen were ascertained which are combined with the amounts of iron which exceeded 10 per cent, on the weight of the slag, and in this way were found the division lines of the two differently shaded surfaces. Now, the portions of ordinates within the lower shaded surface show the content of active oxygen in the slag. One sees that the oxygen requirement of the substances Si, P and Mn has been completely satisfied in the first 50 minutes, and that the changes taking place later are so small that they are in the main so minute as to be no longer perceptible on the small scale chosen for the diagram. Only the manganese reduction is at the finish of the " heat " a little perceptible. On the contrary, the carbon at the commencement used up a relatively small amount of oxygen and soon afterwards became the sole and thereby large consumer of the same.

In criticism of the result of this charge, let there be further derived from the data

There was introduced into the furnace with the ore . . 23'74xO-99xO'7 = 16-47 per cent. Fe

Contained in the final slag . . 18'4 XO'0993 =_1;83 Thus, since nothing went to loss from the slag, iron reduced . 14-64 per cent. F©

There were eliminated 4'21 per cent. 0+1-03 per cent. Si+0-14 per cent. P+T82 per cent. Mn = 7-20 per cent.

Thus the net charge growth ~7*44 per~ceniL

The charge growth should have amounted, according to the previously ascertained values, as under:

4-21 per cent. Cxl'47 (from formula 74)=6'18 1-03 „ Six 1-00 („ „ 68) = 1-03 0-14 „ Px2-00 („ „ 70)=Q-28

7-49 Less 1-82 per cent. MnxO'32 („ „ 72)=Q-o8

Net total 6*91 per cent.

It has thus actually been about 0*5 per cent, higher than was to be expected from the formulae. This has been